



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,077	11/21/2001	Hsien-Chung Woo	JNP-0147	1510
26615	7590	03/20/2006	EXAMINER	
HARRITY SNYDER, LLP 11350 Random Hills Road SUITE 600 FAIRFAX, VA 22030			ABELSON, RONALD B	
			ART UNIT	PAPER NUMBER
			2666	

DATE MAILED: 03/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/990,077

Applicant(s)

WOO, HSIEN-CHUNG

Examiner

Ronald Abelson

Art Unit

2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,9,10 and 12-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7,9,10 and 12-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11/21/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 15 rejected under 35 U.S.C. 102(b) as being anticipated by Uria (US 5,301,184).

Uria teaches packet forwarding logic configured to forward a stream of data packets to a first and second service modules (fig. 1 see incoming stream entering box 10 is forwarded to service modules 11a, 11b, col. 1 lines 51-53), wherein the packet forwarding logic uses the destination address information within the data packets to form the stream (fig. 5a, col. 1 lines 60-66, col. 7 lines 57-65).

Uria teaches selection logic configured to select one of the first or second service modules based on a status signal indicating whether the first service module has failed (fig. 1, col. 1 lines 44-48).

Art Unit: 2666

Uria teaches discard logic configured to discard packets processed by the first service module if the status signal indicates that the first service module has failed (allows only ATM cells from the active system to pass through selector, col. 2 lines 3-11) and to discard data packets processed by the second service module if the status signal indicates that the first service module has not failed (allows only ATM cells from the active system to pass through selector, col. 2 lines 3-11).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-3, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uria (fig. 3) in view of Uria (fig. 1).

Regarding claim 1, Uriu (fig. 3) teaches a plurality of inputs configured to receive respective incoming streams of data

Art Unit: 2666

packets (fig. 3 see inputs to boxes 21a, 21b, col. 5 lines 36-42).

Uria (fig. 3) teaches an output configured to transmit outgoing streams of data packets (fig. 3 see output of box 27, col. 5 lines 27-31).

Uria (fig. 3) teaches packet forwarding logic configured to form outgoing streams of data from the data packets contained in the incoming streams, using destination address / 'VPI/VCI' information contained in the data packets of the incoming streams (fig. 5a, 5b, routing information, VPI/VCI, col. 7 lines 60-65).

Uria (fig. 3) teaches transmitting an outgoing stream of data packets formed by the packet forwarding logic to an output and further configured to discard data packets contained in a selected incoming stream from one of a first input or a second input before the data packets contained in the selected incoming stream are included in any outgoing data streams (col. 9 lines 17-19). Regarding discarding note only ATM cells of the active system are written into the second buffers.

Although Uria (fig. 3) teaches transmitting an outgoing stream, the reference is silent on a plurality of outputs and transmitting the first outgoing stream of data packets to a first and second output.

Art Unit: 2666

Uria (fig. 1) teaches a device for creating a plurality of outputs streams from a single stream and transmitting the first outgoing stream of data packets to a first and second output (fig. 1 box 10, col. 1 lines 49-53).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of Uria (fig. 3) by inserting the transmission line interface (fig. 1 box 10) to the output (fig. 3 box 27). This modification would benefit the system by providing for a redundant output.

Regarding claim 2, the first input and first output are configured to couple to a first service module (fig. 3 box 26a) for processing data packets contained in the first outgoing stream (col. 5 lines 54-58).

Regarding claim 3, the second input and second output are configured to couple to a second service module (fig. 3 box 26b) for processing data packets contained in the first outgoing stream (col. 6 lines 1-5).

Regarding claim 5, the redundancy logic designates one of the first service module or the second service module to be primary and the other to be secondary (fig. 5 box 21a, 21b, col.

Art Unit: 2666

5 lines 36-46) and discards data packets contained in the incoming stream from one of the first or second service modules that is secondary (col. 9 lines 17-19).

Regarding claim 6, the first service module is initially designated to be primary (fig. 5 box 21a, col. 5 lines 36-46).

5. Claim 4 rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Uria (fig. 3) and (fig. 1) as applied to claim 3 above, and further in view of Uria.

The combination is silent on each of the first and second service modules maintains a respective state (col. 1 lines 44-48). Furthermore, Uria teaches the respective state is based upon data packets contained in the first outgoing stream.

Uria teaches each of the first and second service modules maintains a respective state (col. 1 lines 44-48). Furthermore, Uria teaches the respective state is based upon data packets contained in the first outgoing stream (active-system bit '1', active-system bit '0', col. 8 lines 4-9).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of Uria (fig. 1) by

Art Unit: 2666

transmitting an active system bit indicator to the service modules and having the service modules store to active system bit. This modification can be performed in software. This modification would benefit the system by providing a method for informing the service modules which module is active and which is standby.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Uria (fig. 1) and Uria (fig. 3) as applied to claim 6 above, and further in view of Uria.

The combination teaches is silent on, upon receiving an indication that the first service module has failed, the redundancy logic designates the second service module to be primary and the first service module to be secondary.

Uria teaches upon receiving an indication that the first service module has failed, the redundancy logic designates the second service module to be primary and the first service module to be secondary (fig. 1, col. 1 lines 40-48).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination of Uria (fig. 3) and Uria (fig. 1) by incorporating the switchover

Art Unit: 2666

logic of Uria within the switches Uria (fig. 3 boxes 21a, 21b).

This modification can be performed in software. This modification would benefit the system by allowing the standby system to process and output the incoming data in the event of failure in the active system.

7. Claim 9 rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Uria (fig. 3) and (fig. 1) as applied to claim 1 above, and further in view of Branth (US 6,822,958).

The combination is silent on the redundancy logic comprises multicast logic for duplicating specified data packets for output to the plurality of outputs.

Branth teaches multicast logic for duplicating specified data packets for output to the plurality of outputs (col. 2 lines 14-17).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination by incorporating the method of multicasting ATM cells within the redundancy logic of the combination. This modification can be performed in according to the teachings of Branth. This modification would benefit the system by providing a method for the system to perform multicasting.

Art Unit: 2666

8. Claims 10, 12-14, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uria (fig. 1) in view of Uria (fig. 5b).

Regarding claim 10, Uria (fig. 1) teaches forming a first data stream from received data packets (fig. 3 see packets transmitted to boxes 21a, 21b).

Uria (fig. 1) teaches transmitting the first data stream to both a first service module and a second service module (fig. 3 boxes 21a, 21b, transmission line interface, col. 5 lines 39-46), wherein a respective state is maintained in each of the first and second service modules (col. 1 lines 44-48).

Uria (fig. 1) teaches receiving an indication of whether the first service module has failed (col. 1 lines 44-48).

Uria (fig. 1) teaches if the indication indications that the first service module has not failed, discarding packets processed by the second service module (col. 1 lines 44-48). Note, the examiner maintains that packets processed by the second service module since the second service module is in standby mode. Furthermore, the examiner corresponds the non-

Art Unit: 2666

receipt of a fault message with the applicant's indicator that the first service module has not failed.

Uria (fig. 1) teaches if the indication indicates that the first service module has failed, discarding packets processed by the first service module (fault occurred in the active system, active system switched to standby, col. 1 lines 44-48).

Although Uria (fig. 1) teaches the respective state is maintained in each of the first and second service modules, Uria (fig. 1) is silent on the state being maintained based upon the transmitted first data stream.

Uria (fig. 5b) teaches a method wherein the state of the service modules could be maintained based upon a received data stream (active-system bit '1', active-system bit '0', col. 8 lines 4-9).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of Uria (fig. 1) by transmitting an active system bit indicator to the service modules and having the service modules store to active system bit. This modification can be performed in software. This modification would benefit the system by providing a method for informing the service modules which module is active and which is standby.

Regarding claim 12, initially designating the first service module to be active, and designating the second service module to be active if the indication indicates that the first service module has failed (col. 1 lines 40-48).

Regarding claim 13, if the indication indicates that the first service module has not failed, forming outgoing streams from at least data packets processed by the first service module (col. 2 lines 5-11).

Regarding claim 14, if the indication indicates that the first service module has failed, forming outgoing streams from at least data packets processed by the second service module (fault occurred in active system, standby system switched to active, col. 1 lines 44-48).

Regarding claim 16, Uria (fig. 1) teaches an ingress port for receiving an incoming stream of data packets (fig. 1 see input to box 10).

Uria (fig. 1) teaches a transfer unit configured to transmit the data packets contained in the received incoming stream to each of a plurality of forwarding planes (fig. 1 boxes 11a, 11b) connectable to the interface module (col. 1 lines 51-

Art Unit: 2666

53), wherein a respective state is maintained in two or more of the plurality of forwarding planes (fault occurred in the active system, active system switched to standby, col. 1 lines 44-48).

Uria (fig. 1) teaches an egress port for transmitting an outgoing stream of data packets (fig. 1 box 13).

Uria (fig. 1) teaches a switchover unit configured to select one of the plurality of forwarding planes connectable to the interface module (fault occurred in the active system, active system switched to standby, col. 1 lines 44-48) and to form the outgoing stream of data packets from data packets received from the selected forwarding plane (col. 9 lines 17-19).

Although Uria (fig. 1) teaches the respective state is maintained in two or more of the plurality of forwarding planes, Uria (fig. 1) is silent on the state being maintained based upon the transmitted first data packets.

Uria (fig. 5b) teaches a method wherein the state of the forwarding planes could be maintained based upon a received data stream (active-system bit '1', active-system bit '0', col. 8 lines 4-9).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of Uria (fig. 1) by transmitting an active system bit indicator to the forwarding

Art Unit: 2666

planes and having the forwarding planes store to active system bit. This modification can be performed in software. This modification would benefit the system by providing a method for informing the service modules which module is active and which is standby.

Regarding claim 17, the switchover unit selects one of the forwarding planes in response to receipt of a signal indicating the status of one or more of the plurality of forwarding planes (fault occurred in the active system, active system switched to standby, col. 1 lines 44-48).

9. Claims 18-21 rejected under 35 U.S.C. 103(a) as being unpatentable over Ishibashi (US 5,663,949) in view of Uria.

Regarding claim 18, Ishibashi teaches a system for forwarding packets / ATM cells (fig. 27, col. 1 lines 34-42).

Ishibashi teaches first and second forwarding planes (fig. 27 boxes 4), each configured to receive data packets from a plurality of interface modules (fig. 4 boxes 5) and transmit received data packets to a plurality of interface modules (fig. 4 boxes 4, col. 1 lines 23-42), wherein the first and second

Art Unit: 2666

forwarding planes maintain a respective state (switching status of active or standby, col. 1 lines 44-52). Note, ATM cells are received from and transmitted to 'Other ATM Switch'.

Ishibashi teaches a first interface module (fig. 4 box 5) coupled to the first and second forwarding planes (fig. 27 boxes 4), the first interface module receiving data packets contained in an incoming stream at an ingress port (fig. 27: see incoming cells from "Other ATM Switch") and transmitting the data packets to the first forwarding plane and the second forwarding plane (fig. 27 boxes 4: see connection from box 5 to boxes 4), the first interface module further receiving data packets from each of the first and second forwarding planes (fig. 27 boxes 4: see connection from boxes 4 to box 5) and transmitting at an egress port data packets from a selected one of the first and second forwarding planes (fig. 5: see transmission from box 5 along line 130, switching status of active or standby, col. 1 lines 44-52).

Ishibashi is silent on the respective state based upon the received data packets.

Uria teaches a method wherein the state of the service modules could be maintained based upon a received data packets (fig. 5b, active-system bit '1', active-system bit '0', col. 8 lines 4-9).

Art Unit: 2666

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of Ishibashi by transmitting an active system bit indicator to the forwarding planes and having the forwarding planes store to active system bit. This modification can be performed in software. This modification would benefit the system by providing a method for informing the forwarding planes which plane is active and which is standby.

Regarding claim 19, a routing engine, coupled to each of the first and second forwarding planes, for computing route information using routing protocols (Ishibashi: fig. 27 box 2, col. 10 lines 60-64).

Regarding claim 20, the first and second forwarding planes (fig. 27 boxes 4) forward received data packets for transmission based on address information contained in respective data packets and route information computed by the routing engine / switch (Ishibashi: VPI, VCI, col. 10 lines 60-64).

Regarding claim 21, the first interface module selects one of the first and second forwarding planes in response to a signal indicating the status of one or more of the forwarding

Art Unit: 2666

planes (Ishibashi: fig. 28, faults of the line devices detected by the fiber interface common card, col. 2 lines 17-21).

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald Abelson whose telephone number is (571) 272-3165. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Application/Control Number: 09/990,077

Page 17

Art Unit: 2666



Ronald Abelson
Examiner
Art Unit 2666



CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 20 4/13/06